

Claims

1. A method for operating a fuel cell system (2), whereby a process gas (L) is supplied to the fuel cell system (2) with the aid of a liquid ring pump (8), characterized in that impurities contained in the process gas (L) are taken up by the operating liquid (F) of the liquid ring pump (8) and the contamination of the operating liquid (F) with the impurities is monitored.

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2. The method as claimed in claim 1, characterized in that the contamination of the operating liquid, in particular the conductivity of the operating liquid, is measured.

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3. The method as claimed in claim 1 or 2, characterized in that, when an upper limit of the contamination of the operating liquid (F) is exceeded, the operation of a fuel cell block (4) of the fuel cell system (2) is interrupted.

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4. The method as claimed in one of the preceding claims, characterized in that, when a lower limit value of the contamination of the operating liquid (F) is exceeded, the operating liquid (F) is exchanged or is purified in a purifying device (16, 24).

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5. The method as claimed in one of the preceding claims, characterized in that at least one component flow (T2) of the operating liquid (F) is conveyed in a circuit via the purifying device (16, 24).

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6. The method as claimed in claim 4 or 5,
characterized in that the purifying device (16, 24)
comprises an ion exchanger.

5 7. The method as claimed in claim 5 or 6,
characterized in that the operating liquid (F) is fed via a
heat exchanger (18, 32) to the purifying device (16, 24).

10 8. The method as claimed in one of claims 5 to 7,
characterized in that the operating capability of the
purifying device (16, 24) is monitored.

15 9. The method as claimed in claims 5 to 8,
characterized in that, given an inadequate purifying
efficiency of the purifying device (16), said device is
regenerated and there is a switchover to a further
purifying device (24) or the operation of a fuel cell block
(4) of the fuel cell system (2) is interrupted.

20 10. The method as claimed in one of the preceding claims,
characterized in that the operating liquid (F) is used
simultaneously as cooling water for the fuel cell system
(1).

25 11. A fuel cell system (2) having a feed line (6) for a process
gas (L) and having a liquid ring pump (8) inserted into the
feed line (6) for compressing the process gas (L) intake,
characterized in that during operation impurities contained
in the process gas (L) are taken up by the operating liquid
30 (F) of the liquid ring pump (8) and that a device (16, 24,
28) is provided for monitoring the contamination of the
operating liquid (F).